

REMARKS

Claims 1-35 are pending in the captioned Application in which claims 1-6, 9-10, 12-17, 19-20, 28, 32 and 34 are rejected, claims 22-27 are allowed, objected-to claims 7-8, 11, 18 21, 29-31 and 33 would be allowable if rewritten in independent form, and claim 35 is newly added.

Claims 5, 7, 8, 11, 18, 20, 21, 28, 29, 31, 32 and 33 are amended hereby as set forth below and claim 34 is amended to clarify that the second light source is operable selectively.

Objections:

Claims 5 and 28 are objected to because of informalities involving an antecedent. The objection is overcome by amending claims 5 and 28 to correct the typographical/word processing errors that led to the objection. The Examiner is thanked for pointing out the suggested changes.

Claims 7-8, 11, 18, 21, 29-31 and 33 are objected to as depending from a rejected base claim. The rejection is overcome by rewriting claims 7, 8, 11, 18, 21, 29 and 33 in independent form.

This amendment does not narrow the scope of any claim element or limitation and so is not limiting of any claim element or limitation, and Applicant reserves the right to the benefit of the doctrine of equivalents with respect thereto.

Accordingly, the objection is overcome and should be withdrawn.

Rejection Under 35 U.S.C. §102(e):

Claims 1, 2, 4, 9, 10, 12, 13, 14, 19, 20, 28, 32 and 34 are rejected under 35 U.S.C. §102(e) as being anticipated by US 6,841,941 to Kim et al.

The rejection is respectfully traversed.

Kim et al relates to a brightness controllable flashlight in which a light controller circuit located in the lamp (head 14) end of the light 10 is to be controllable by a switch 32 located at the opposite (tail) end of the light 10. The switch 32 has three positions: OFF, first ON for connecting a resistor 28 for reduced brightness, and second ON for full

brightness, wherein a controller 30 periodically tests for the presence of the resistor 28 in circuit for controlling the brightness of the incandescent lamp 18. The Kim et al light 10 also includes three light-emitting diodes (LEDs) 20 that are on whenever the switch 28 is closed irrespective of any control of controller 30 over the brightness of lamp 18.

In Kim et al, a voltage divider is formed by the resistor 28 when it is in circuit (first ON position) and the incandescent lamp 18 so that a portion of the battery voltage is applied to processor 90 for determining whether the resistor 28 is or is not in circuit. (Column 8, lines 28-31 & line 46 to column 9, line 9). Because the resistance of the filament of lamp 18 is much lower than is the ten ohm resistance of resistor 28, the lamp 18 voltage sensed via resistor 95 will always be low if resistor 28 is present and will be high if resistor 28 is not present (second ON position of switch 26). (Column 8, lines 55-63).

It is noted that Kim et al consistently uses the term “power source” to include the battery 22 in series with the resistor 28 (e.g., column 8, lines 28-31, 50-59 & thereafter), and specifically so defines power source at column 8, lines 50-51.

It is submitted that the Examiner’s application of Kim et al is in error in several respects, and so Applicants’ claims are patentable thereover. Specifically, controller 30, 90 of Kim et al samples the voltage produced at the output of the voltage divider formed by resistor 28 when in circuit and incandescent lamp 18 which has a very low resistance thereby facilitating the detection of resistor 28 being in circuit. It is not seen that controller 30 or microprocessor 90 of Kim et al compares the potential produced by battery 22 with a reference potential as is recited, for example, by Applicants’ claims 1, 12, 28 and 34, and so cannot meet Applicants’ claims.

The Examiner’s assertion that diode 96, series resistor 97 and capacitor 98 provide a “source of reference potential” is also incorrect. The potential at capacitor 98 is the voltage of battery 22 (which varies with operation) less the drop of diode 96 for biasing low voltage dropout regulator 92 which provides operating voltage VDD for processor 90, e.g., via low voltage dropout regulator 92. (Column 8, lines 40-45). Microprocessor 90 merely detects the presence of resistor 28 in circuit. (Column 8, lines 46-49).

In addition, the Examiner’s assertion that the TTL threshold at the input of controller

30 via resistor 95 is a reference potential is also incorrect. It is submitted that the TTL logic threshold is not a reference potential, but defines upper and lower limits of potential for detecting signal levels that are defined as logical “high” and logical “low” signals. If the TTL input is above the upper TTL logic threshold (e.g., normally 2.0 volts per Kim et al at column 9, lines 4-5) then it will be considered a logical “high” (or logical “1”), and if it is below the lower TTL logic threshold (e.g., normally 0.8 volts per Kim et al at column 8, line 58) then it will be considered a logical “low” (or logical “0”), however, the logical state is undefined for inputs between the upper and lower TTL logic threshold levels.

Moreover, the Kim et al switch is a single switch 26 with two sets of contacts 34, 38 that can only produce three possible states (positions) – OFF, first ON position (only LEDs 20 are ON) and second ON position (both lamp 18 and LEDs 20 are ON). (Column 5, lines 3-24 & 38-48). The controller 30 and processor 90 of Kim et al detects the position of the switch 26 for controlling the brightness produced by one or more incandescent lamps. (E.g., column 1, lines 57-62; column 2, lines 9-15, 18-23 & 27-30; column 3, 5-9).

Nothing in Kim et al describes or suggests a first switch for selectively energizing a first light source and a second switch for selectively energizing a second light source, as set forth, for example, in Applicants’ claims 1 and 12. In addition, nothing in Kim et al describes or suggests that the first and second switches be independently operable or that the second switch be operable responsive to the comparator, or both, as set forth, for example, in Applicants’ claims 2 and 12.

Thus, Kim et al lacks a comparator responsive to a potential produced by the battery and to the reference potential for de-energizing the first light source when the battery potential is below a predetermined potential and also lacks a second switch for selectively energizing a second light source, and so cannot anticipate Applicants’ claims.

Specifically: Applicants’ claim 1 is patentable at least because it recites:

“a source of a reference potential;

“a comparator responsive to a potential produced by the battery and to the reference potential for de-energizing said first light source when the battery potential is below a predetermined potential;

“a second light source that operates at a lower current than does said first light source to produce light; and

“a second switch in circuit with the battery for selectively energizing said second light source to produce light,”

which is not described or suggested by Kim et al.

Further, Applicants' claim 12 is patentable at least because it recites:

“a source of a reference potential;

“a comparing circuit responsive to a potential produced by the battery and to the reference potential for de-energizing said incandescent light source when the battery potential is below a predetermined potential;

“a solid state light source; and

“a second switch in circuit with the battery for selectively energizing said solid state light source to produce light independently of said first switch and/or when the battery potential is below the predetermined potential,”

which is not described or suggested by Kim et al.

In addition, nothing in Kim et al describes the particular arrangement of a first transistor connected as set forth in claim 28 with a source of reference potential connected as set forth therein.

Specifically, Applicants' claim 28 is patentable at least because it recites:

“first and second terminals across which a battery potential may be applied;

“a first switch having first and second ends, the first end thereof being coupled to said first terminal;

“a first transistor having a controllable conduction path between first and second electrodes and having a control electrode for controlling the conduction of the controllable conduction path thereof, the first electrode thereof being coupled to said second terminal; and

“a source of reference potential coupled between the second end of said first switch and the control electrode of said first transistor;

“wherein the second electrode of said first transistor is coupled to said first terminal via a load,”

which is not described or suggested by Kim et al.

Kim et al detects a low voltage from a power source that is a battery 22 and a series resistor 28 (resistor 28 being in circuit for a particular position of a switch 26 for the purpose of producing a low voltage that is detected as indicating presence of resistor 28) for not

energizing an incandescent lamp for selecting brightness. Kim et al does not compare the battery potential and a reference potential to de-energize a first light source when the battery potential is below a predetermined potential.

Specifically, Kim et al lacks the source of reference potential and lacks a comparator that de-energizes the light source when the battery potential is below a predetermined potential.

Accordingly, Applicants' claim 34 is patentable at least because it recites:

“a source of a reference potential;

“a comparator responsive to a potential produced by the battery and to the reference potential for de-energizing said first light source when the battery potential is below a predetermined potential; and

“a second light source that operates to produce light at a lower current than does said first light source, wherein said second light source is selectively operable from the battery to produce light at least after said comparator de-energizes said first light source,”

which is not described or suggested by Kim et al.

Applicant's claims 2, 4, 9, 10, 13, 14, 19, 20 and 32 are patentable at least because they depend from one of patentable claims 1, 12 and 28. In addition, claim 2 recites the second switch is independent of the first switch and/or is operable responsive to the comparator, claims 10, 14 and 20 recite that the second or solid state light source is energized responsive to the comparator de-energizing the first or incandescent light source, and claim 19 recites the second switch comprising a second transistor coupled to the first transistor for controlling the solid state light source, none of which is described by Kim et al.

Accordingly, the rejection under 35 U.S.C. §102(e) is overcome and should be withdrawn.

Rejections Under 35 U.S.C. §103(a):

Claims 3, 5, 6, 15, 16 and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kim et al. The rejection is respectfully traversed.

Kim et al is discussed above.

Applicant's claims 3, 5, 6, 15, 16 and 17 are patentable at least because they depend from one of patentable claims 1 and 12.

In addition, claims 3 and 15 recite that the second switch is a transistor for controlling the second or solid state light source responsive to the comparator, and claims 5 and 16 recite that the source of reference potential is coupled to the control electrode of the first transistor, none of which are described or suggested by Kim et al.

Accordingly, the rejection under 35 U.S.C. §103(a) is overcome and should be withdrawn.

Allowable Subject Matter:

The objection to claims 7-8, 11, 18, 21, 29-31 and 33 is overcome by claims 7, 8, 11, 18, 21, 29 and 33 being rewritten in independent form. To correct informalities not affecting the meaning or scope of the claims, claim 20 is amended for consistency with claim 12 from which it depends and claims 31 and 32 are amended to conform the preamble wording with the claim from which they depend.

This amendment does not narrow the scope of any claim element or limitation and so is not limiting of any claim element or limitation, and Applicant reserves the right to the benefit of the doctrine of equivalents with respect thereto.

Withdrawal of the objection is in order and such action is solicited.

Regarding claims 7-8, 11, 18, 21, 29-31 and 33, the Examiner's reasons for indication of allowable subject matter set forth in paragraph 8 of the Office Action appear to paraphrase claims 7 and 18, but do not relate to others of the objected to claims. Applicant's note that rewritten independent claims 8, 11, 21, 29 and 33 each comprise a new, useful and non-obvious combination of elements that include different elements than those recited in claims 7 and 18 and/or each recites different limitations regarding similar elements than are recited in claims 7 and 18.

Applicants submit that each of the allowed and allowable claims is patentable in its own right because of the particular combination of elements that each recites.

Newly Added Claim 35:

Support for added claim 35 is found, for example, in Figures 2, 3, and 7, in the specification at paragraphs [022] - [046] and [070] - [073], and in original claims 28 and 34.

Added claim 35 is patentable at least because it recites::

“first and second terminals across which a battery potential may be applied;
“a first switch having first and second ends, the first end thereof being coupled to said first terminal;
“a transistor having a controllable conduction path between first and second electrodes and having a control electrode for controlling the conduction of the controllable conduction path thereof, the first electrode thereof being coupled to said second terminal;
“a source of reference potential coupled between the second end of said first switch and the control electrode of said transistor;
“a first light source for producing light when electrically energized;
“wherein the second electrode of said first transistor is coupled to said first terminal via said first light source;
“a second light source for producing light when energized; and
“a second switch operable independently of said first switch,
“wherein said second switch and said second light source are coupled between said first and second terminals for selectively energizing said second light source,”

which is not described or suggested by any reference of record.

Allowance of claim 35 is solicited.

Conclusion:


Applicant respectfully requests that the objections and rejections be withdrawn, and that the Application including claims 1-35 be allowed and passed to issuance.

Enclosed is a check in payment of the \$825.00 fee for increasing the number of independent claims by eight and the total number of claims by one in this timely-filled response. A Fee Transmittal sheet is submitted herewith.

Should the fee enclosed be incorrect, or any other or additional fee be due in consequence of this response, please charge such fee and deposit any refund to Deposit Account 04-1406 of Dann, Dorfman, Herrell & Skillman.

The Examiner is requested to telephone the undersigned attorney if there is any question or if prosecution of this Application could be furthered by telephone.

Respectfully submitted,
Dann, Dorfman, Herrell & Skillman, P.C.
Attorneys for Applicant(s)

By: 
Clement A. Berard
PTO Registration No. 29,613

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Dann, Dorfman, Herrell and Skillman, P.C.
1601 Market Street, Suite 2400
Philadelphia, PA 19103

Telephone: 215-563-4100
Facsimile: 215-563-4044

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